klima2+

Exhibition concept idea by Christine Dybing

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Course description

The course explores current exhibition approaches of the topic “climate”in the Oslo museum´s environment. Based on analysis and reflection on the different institutional approaches, each student is required to create and present an individual concept and design adding to the current exhibition “klima2+”at the Norsk Teknisk museum.

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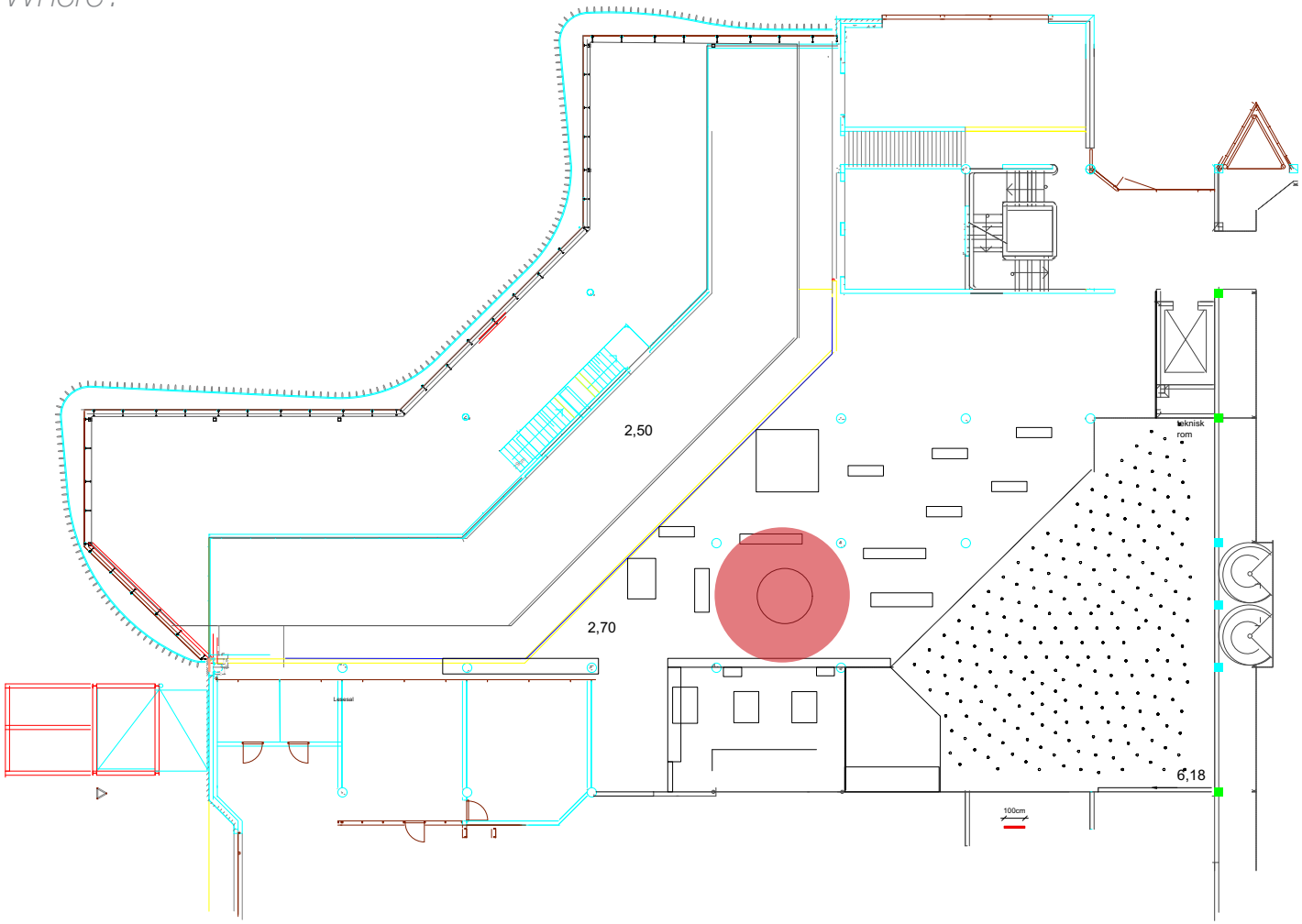
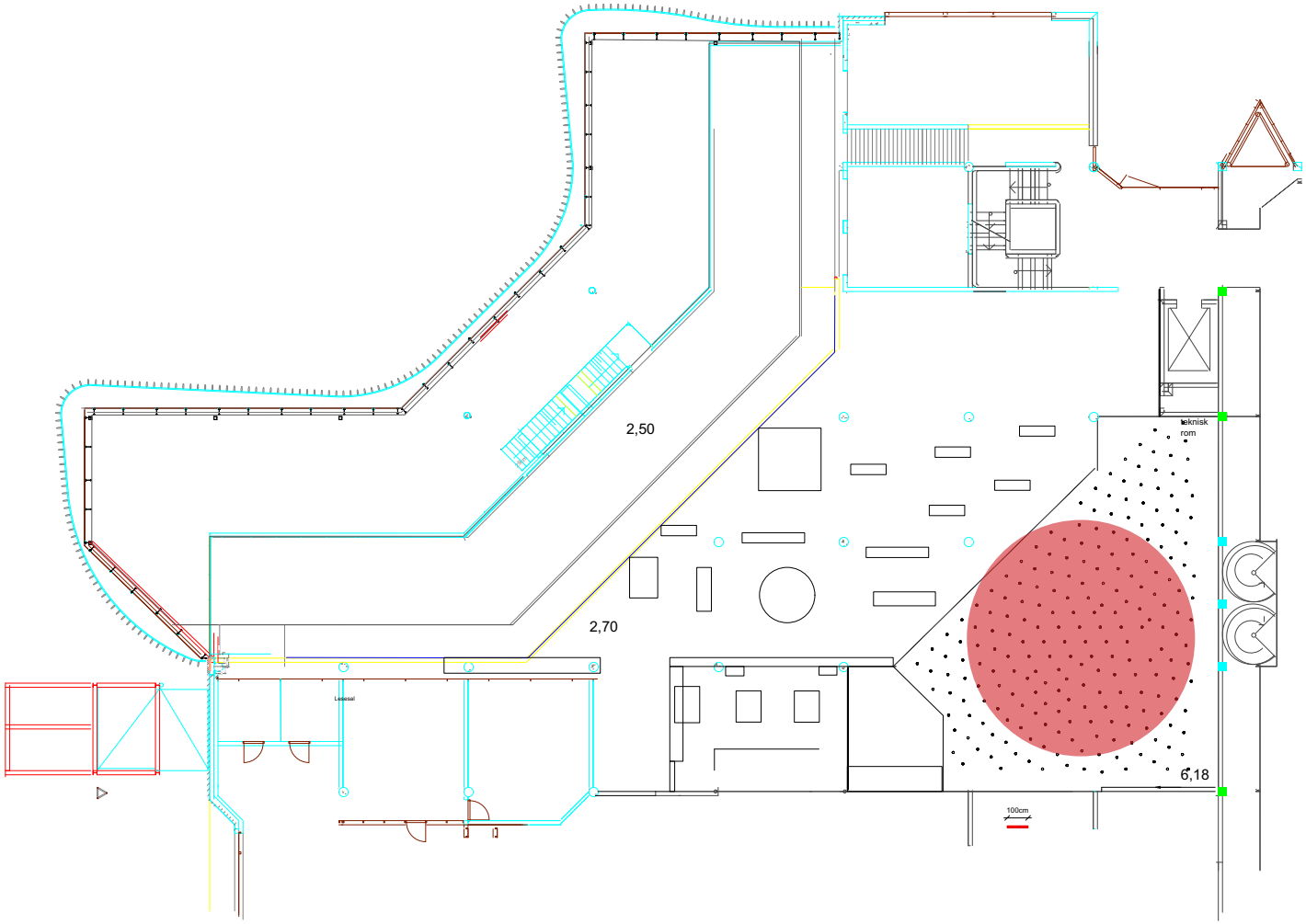
Where?



Thought my object could be displayed here in the beginning of the process



Or to be displayed here.

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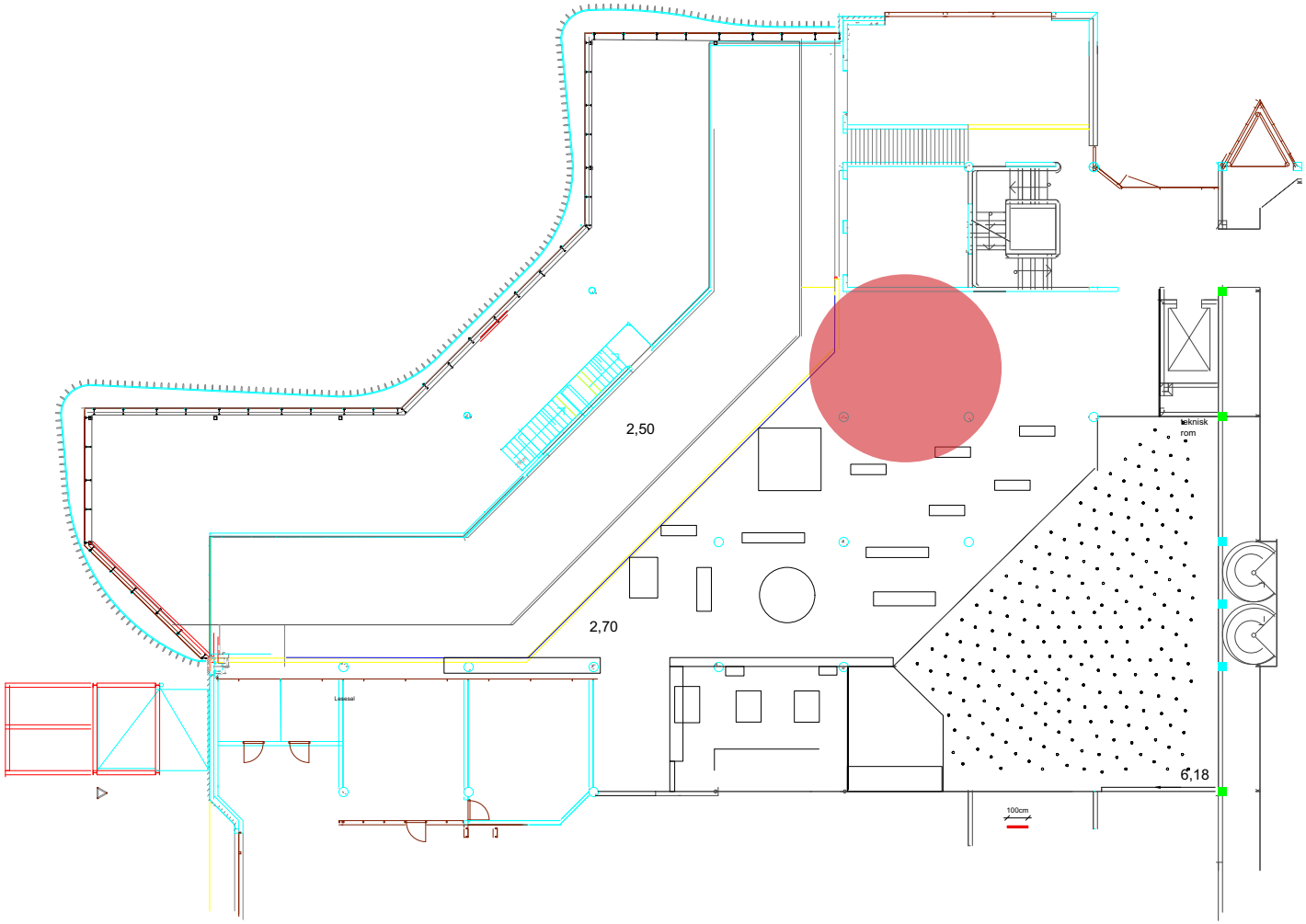

Then thought it would work good in the workshop area, but after further feedback the idea would be to have the models exhibited with other scale models that are at the museum.

Illustration of IoT, 4G, Telenor

First idea

Internet is a farly new thing. The global system of interconnected computer networks that uses the Internet protocol suite (TCP/IP) to communicate between networks and devices. An intangible object. Therefore not something you can touch or see. So how do you exhibit something that you cannot be touched nor seen?

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The amount of carbon footprint

Second idea

The internet itself is a rather hugh concept to have as a *object* to exhibit in a three week course. So to narrow it down I have then thought of exhibiting the way we send information via e-mail and the carbon footprint it leaves.

An interactiv wall where you can select the amount of information, what kind of e-mail (photos, tekst, etc.), you want to send. Then it flyes across a screen showin as a particle, or something, with the amount of carbon footprint it uses and the ending up as physical waist to underline the impact on the enviroment.

Cow trying our VR-glasses

Third idea

IoT, or Internet of Things, sensors that is connected to internet and collects information.

Using VR glasses/headsets to show how IoT works and how it is used in Norway and the rest of the world. We have not come that far in Norway yet..

Jotun HullSkater, remote controlledrobot

Fourth idea

IoT, or Internet of Things, sensors that is connected to internet and collects information.

Want to show something in this concept. Because it is something that are contributing to the enviroment in several ways. Do not know if it should just be an introduction to the information or to show how the sensores can be used. Ref. bluetooth etc.

What?

(Have not really desiced yet) But something to show the amount of animals that before IoT where lost because of several mainly the lach of controll of the grazing animals. And then showing how the farmer controlles the animals which gives them a longer and better life. An important measure so that farmers maintain grazing areas in Norway

Whom?

Everyone, all ages.

Why

To give the visitors knowledge about how IoT (Internet of Things) works and how we use it in Norway. A positive approach towards a rather serious topic, that has such a negative impact on the world, climate change.

To here also show the ongoing solutions that is being done.

Role of the visitor

Get information by interacting with an interactive device where you can select what kind of information you would want to learn about, either learn just some or it all.

Why is this important?

To educate people on how to do better on behalf of the climate and our selves. To keep seeking knowledge on how to use what we know to enhance our technology, science and medicin.

This is the first draft of my idea, which changed and got more content after the last guidance on zoom. Since I had been doing alot of research on what part of the internet I wanted to use in my concept. And then doing alot of research on what IoT is, how it works and how it is being used in different perspectives. The figuering out how this is connected to climate, whitout it being to general and more connected to Norway and the rest of the Klima2+ exhibition.

IoT - Smart cities

More than half of the world's population now lives in cities—up from just 34% in the 1960s. By mid-century that figure could reach 66% according to the United Nations. Cities are major contributors to climate change, and some are already feeling its impact through rising sea levels and increasingly severe weather events.

But cities are also great incubators for IoT-based systems that make urban life more attractive, such as fast, convenient transportation systems, safe street lighting and energy-efficient buildings.

In Barcelona, a citywide WiFi and information network linked to sensors, software and a data analytics platform has enabled the city to provide smart water technology, automated street lighting, remote-controlled irrigation for parks and fountains, "on-demand" waste pickups, digital bus routes and smart parking meters. These IoT-enabled urban services have dramatically reduced traffic jams and pollution, as well as water, light and energy usage.

Many other cities are also putting the Internet of Things to work. Chicago is testing a city-wide network of sensors called the “Array of Things”. The sensors serve as a sort of fitness tracker for the city, collecting data on air quality, climate, traffic and other metrics. The information is sent to an open data portal where user groups can consume it for a range of applications.

Las Vegas is using the Internet of Things to improve traffic flow, while in South Korea, the entire smart city of Songdo is built around the Internet of Things. Songdo’s networks are designed to ensure its buildings, transportation system and infrastructure are as efficient as possible.

IoT - Agriculture

Tracing deviced on grazing animals already existed before it now has gotten a new and better technology. Before it used radiosignals which gives a bad range and the signal can be a challenge, especially in this country of tall mountains and deep valleys stretching across the land.

IoT, Internet of Things, gives a whole new quality covera-ge. And the cost per tracer has increased by half, giving the opportunity for every single one of the animals to wear a tracer.

Some of the challenges farmers face every year is the loss of their grazing animals which is around 130.000, and by various causes. The lach of controll of the animals are a hugh part of this number. With the tracing device it gives the farmers the possibility to know where their animals are at every hour of the day. It can be trained to be preventive towards larger predator attack. It is possible ot programme how an animal normaly acts, so that if the animal gets out of terriroty the famer will get a notice. If an animal is laying dead the farmer gets a notice and can respond fast and find the animals location.

Grazing technology allows farmers to build geographical ‘fences’ via a smartphone application that connects with a collar worn by the animal. The geographical fence ensures that the animals are not only free to roam in a dedicated area, but that they are easily moved from one pasture to the next without having to physically move or build fences or other barriers. This not only saves time, money, and manpower, it is also in line with the growing regenerative agriculture movement, which among other things, helps reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity.

Because farmers are now able to harvest and use farm resources in a much more effective way.

With regenerative farming they get better annual yield because the soil is healthier, while nature and the ecosystem are running according to nature. It’s going back to the days before chemicals replaced good sense, while also ensuring your farm is profitable and efficient.

IoT - climate

IoT, or Internet of Things, sensors that is connected to internet and collects information.

How IoT can contribute towards the climate problems:

Smart tracker on grazing animals
Gives the farmers the possibility to have more controll on their grazing animals. As without these trackers there is a hugh loss of animals.
This not only saves time, money, and manpower, it is also in line with the growing regenerative agriculture movement, which among other things, helps reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity.

https://tele2iot.com/case/iot-takes-agricultu-re-to-the-next-level/
https://www.telenor.no/bedrift/aktuelt/internet-of-things/smartbjella/

Smarter cities
Smart cities are also on the rise, and IoT developers are working on ways to use the IoT to monitor urban conditions such as traffic, maintenance, air quality, electricity use, water consumption, waste management and other various environmental factors. Doing so can help urban planners, as well as residents, come up with solutions to current issues and save resources.

Along with advanced data analytics, IoT-enabled devices and sensors are being used to do things such as reduce air pollution in some of our world's biggest cities, create smarter agriculture and food supply systems, even improve detection and containment of deadly viruses.

https://blogs.cisco.com/innovation/iot-for-good-how-the-internet-of-things-is-transforming-our-world-for-the-better

What is the intention?

The message is to show the evolution of the internet and how especially IoT is contributing to help the climate today. From how the internet have given us the opportunity to send and get information fast and the effect of it. How the internet have also been a big problem to climate change. Solution: How IoT is contributing to reverse climate change by showing how a smart city and/or grazing animals work in practice with the use of IoT. Diorama.

The initial idea to achive this

An electric miniature city or grazing land. Showing how the IoT works in practice by using IoT on these miniature objects and having an informative screen where the visitors interact with the object and/or screen by choosing what spesific thing they want information about.

Example: The geographical fence ensures that the animals are not only free to roam in a dedicated area, but that they are easily moved from one pasture to the next without having to physically move or build fences or other barriers. This helps reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity.

In Barcelona, a citywide WiFi and information network linked to sensors, software and a data analytics platform has enabled the city to provide smart water technology, automated street lighting, remote-controlled irrigation for parks and fountains, "on-demand" waste pickups, digital bus routes and smart parking meters. These IoT-enabled urban services have dramatically reduced traffic jams and pollution, as well as water, light and energy usage.

Role of the visitor

Get information on how the world is evolving with IoT and how this directly is connected to climate change and how we can be apart of a change for the better.

Why is this important?

For infrastructure, farming, technology ect. to evolve with the speed of the internet of things so that we humans can use the technology with its full effect by contributing to reduce climate change.

Whom?

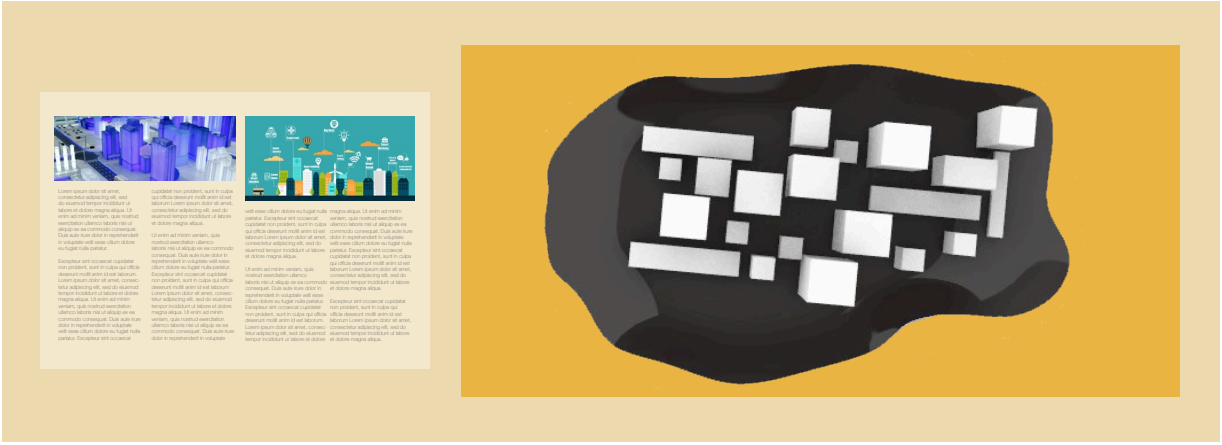
Everyone, all ages.

Where?

The workshop. Could also be shown at the IKT exhibition that will happen on top floor of Norsk teknisk museum. After feedback the location is changed to where the other scale models are located in the museum.

Here is illustartions on how this smaller *realistic* smart model of a smart city could look like. After the presentation I would like it to be displayed on a large podium so that the model can show more details.

By using projectors, sound effects and moving parts in the model I think it would be very effective for the visitor to get interested.
Examples: Air quality could change, shown as a non clear air going through the city, gets detected by a device on the podium for the visitor to see, and give the visitor a chance to alert the citisens. Then by giving the alert people who are walking in the city walk inside, shut the windows and so on.



A first example of how to display, do not think this would work that good.

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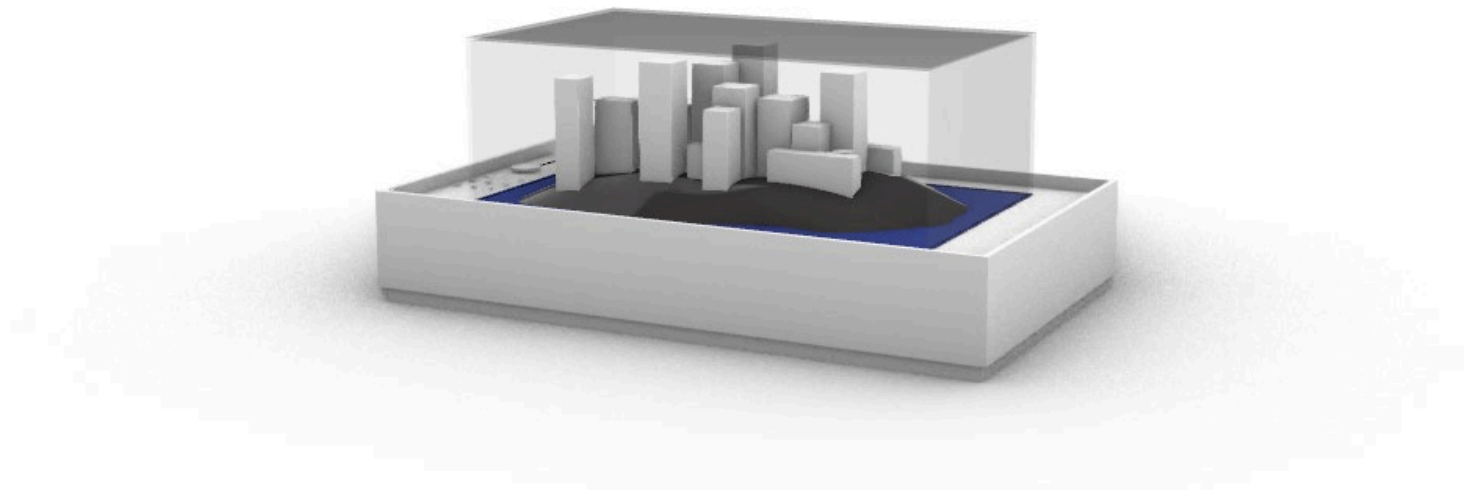
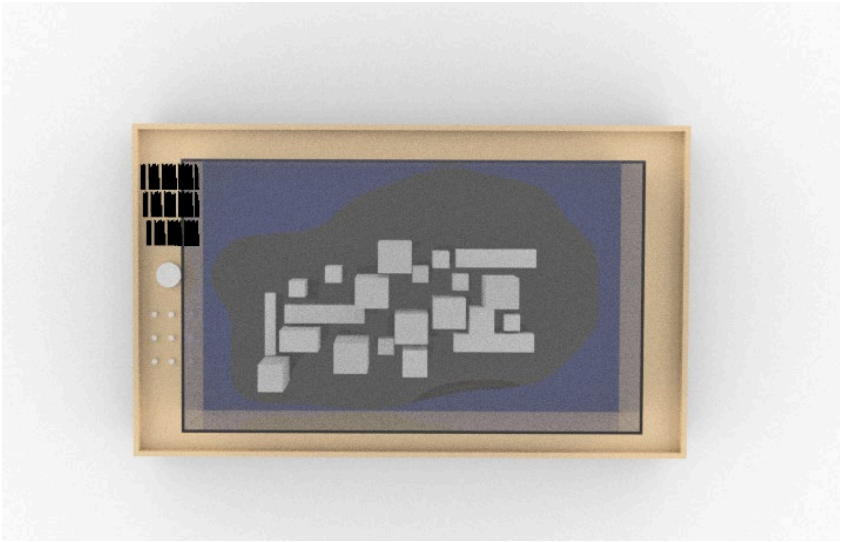
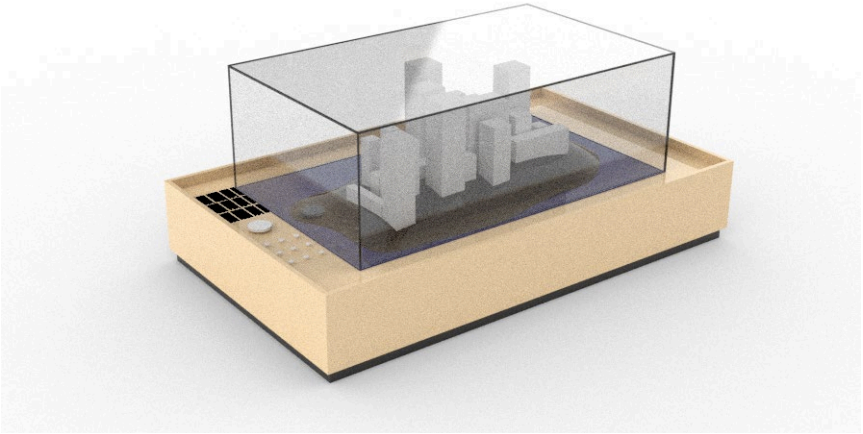
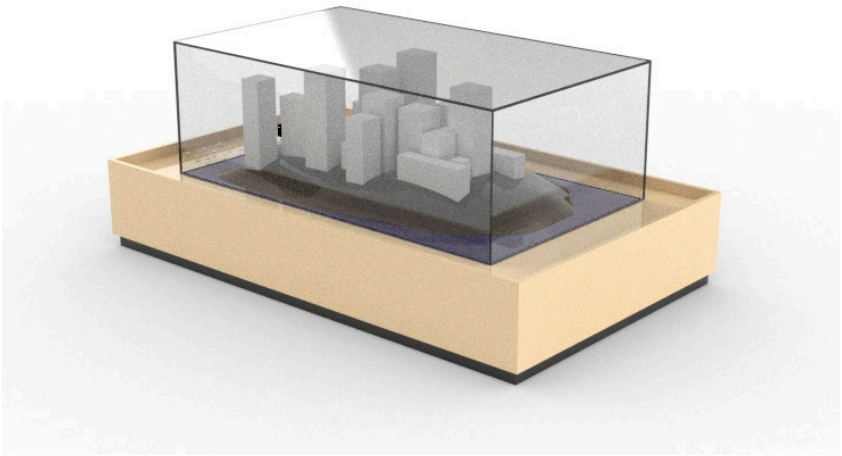
This is more how I would want the models to be exhibited.
A podium where the model is in a glas monter so that it could be possible to use fog as an effect to show climate change. Or this could also just be projected and then it would be no need for the glass, that also creates a distance towards the visitor.

The measurements would be a 2 m x 1,2 m x 1 m podium with model.



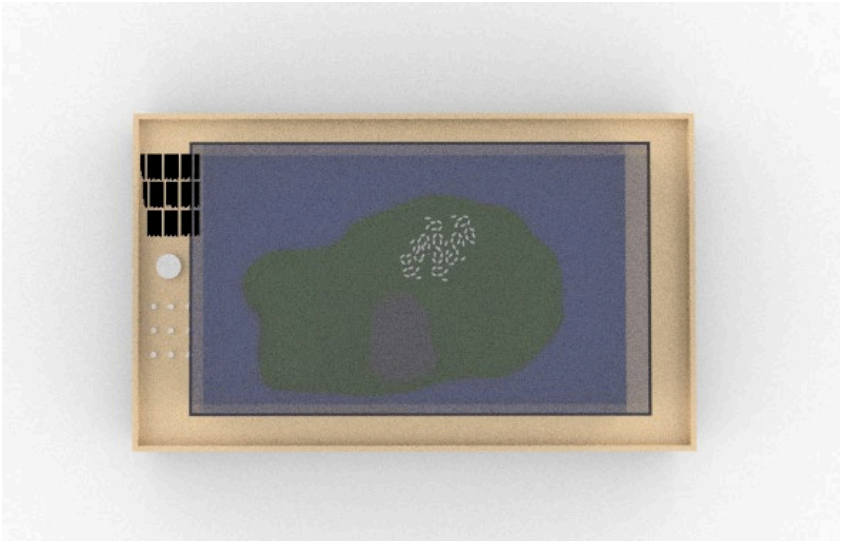


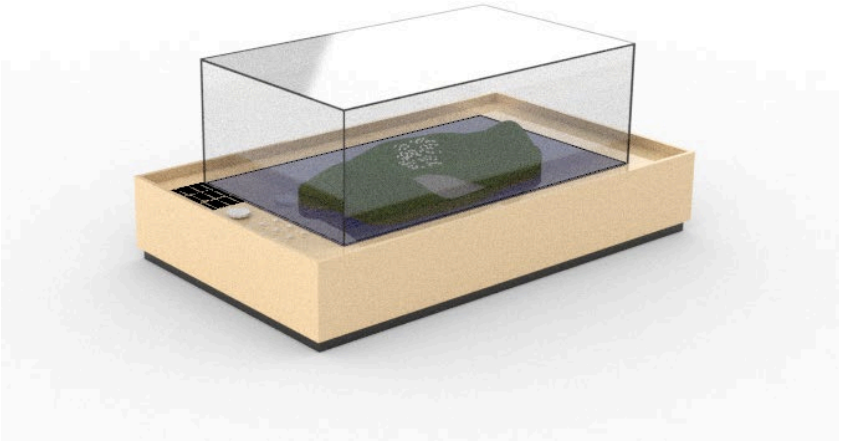


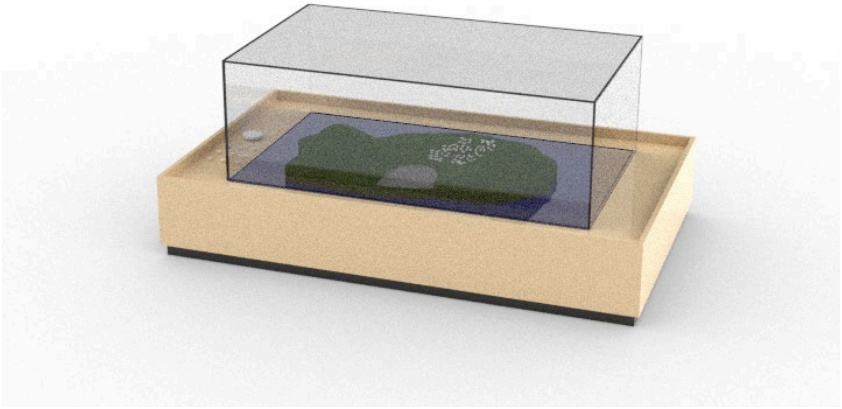


The initial design with example of how text can be exhibited and buttons for the visitors to push and/or rotate for different scenarios to happen in the model.

Example: Traffic is jamming in the model, the visitor can push a button to activate IoT techonology, then a screen will show how the technology makes sure that the traffic flows in the city. There would also come up information when pushing the right button what the visitor did right and the knowledge behind what IoT does in this situation. If the visitor pushes the wrong button, there will come up information on a screen on the situation/consequenses without IoT technology.







Example: Grazing animals walking towards train rails, so towards danger that is one of the issues that farmers loos their animals through the year. The visitor is invited to fix the problem by activating the IoT technology and also the right answer to what the IoT can do to help the animals. The right answer would be to activate the invisible fence the farmer already has implemented into the collar of the animals. There would also come up information when pushing the right button what the visitor did right and the knowledge behind what IoT does in this situation. If the visitor pushes the wrong button, there will come up information on a screen on the situation/consequenses without IoT technology.